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10/560,041	12/08/2005	Kai Thiele	281754US0PCT	9444
22850 7590 02/24/2009 OBLON, SPIVAK, MCCLELLAND MAIER & NEUSTADT, P.C. 1940 DUKE STREET ALEXANDRIA, VA 22314			EXAMINER FRANK, NOAH S	
			ART UNIT 1796	PAPER NUMBER
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Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Notice of the Office communication was sent electronically on above-indicated "Notification Date" to the following e-mail address(es):

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DETAILED ACTION

Response to Arguments

Applicant's arguments filed 2/4/09 have been fully considered but they are not persuasive.

The amendments to the claims do not change the grounds of rejection as the limitations of claims 3 and 4 were discussed with claim 1.

In response to applicant's arguments that there is nothing in Malz or Gupta that suggests that the stabilizers are interchangeable, both compounds are hindered phenols, the only substantial difference being that the compounds of Malz are the diesters, whereas those of Gupta are the monomeric acids. Gupta additionally teaches that derivatives of carboxylic acids, such as esters, are generally used as stabilizers (1:65-2:5). Gupta also teaches that the stabilized polyisocyanates may be used with advantage for the production of polyurethanes (2:30-40). Gupta's stabilizers, while used to stabilize isocyanates, also are present in the final polyurethane product, and will continue to function as stabilizers. The skilled artisan has a reasonable expectation of success that the diester hindered phenols of Malz would stabilize isocyanates, as Gupta teaches the monomeric acids and esters to stabilize isocyanates. Furthermore, applicant has admitted that the use of 3,5-di-tert-butyl-4-hydroxyphenylpropionic esters are known for stabilizing isocyanates from WO 99/48863 (¶0007 of instant application). The compounds of Malz are simply the diester, and would be assumed to have the same effect on isocyanates.

In response to applicant's arguments that there is nothing in Malz that would have led the skilled artisan to select a stabilizer having the claimed structural and weight requirements, Malz teaches a preference to the number average molecular weight being less than the weight average molecular weight as it inhibits any undesired crystallization (3:55-60). Additionally, the structural limitations are one of the necessary parts of Malz's invention (1:65-67).

In response to applicant's allegations of unexpected results, Table 1 compares the inventive compound against two types of hindered phenols, Irganox 1141 and Irganox 1076. Irganox 1141 is the compound below:



Irganox 1141 is a much less hindered phenol and lacks carboxylic acid or ester functionality. It is not the closest prior art for stabilizing isocyanates, and as such, no comparisons can be drawn. Irganox 1076, on the other hand, is an ester of 3,5-di-tert-butyl-4-hydroxyphenolpropionic acid. However, it is not until week four or six that a substantial difference in alpha value is seen. Additionally, as Irganox 1076 is the monoester, and the inventive is the diester, it would take 1200 ppm of Irganox 1076 to equal the amount of hindered phenol groups in the inventive compound. As such, the showing of unexpected results is not persuasive.

In response to applicant's arguments that the results are not unexpected because Malz indicates that the disclosed stabilizers are better than known stabilizers, it is understood that Malz teaches the stabilizers for stabilizing thermoplastic polyurethanes. However, the important teaching is that Malz teaches the stabilizers as alternatives for the traditional hindered phenols, such as Irganox 1135 (11:55-60), an ester of 3,5-di-tert-butyl-4-hydroxyphenolpropionic acid. Malz teaches that the inventive stabilizers are at least as good as the commercial product, and has other benefits, such as a lack of fogging problems (11:65-67). Malz teaches a compound that still has the functionality of standard hindered phenols, with added benefits. The skilled artisan has a reasonable expectation of success that these compounds would act in a substantially similar way while stabilizing isocyanates, as opposed to polyurethanes, as the functional moiety is the same. (hindered phenol).

Correspondence

Any inquiry concerning this communication or earlier communications from the examiner should be directed to NOAH FRANK whose telephone number is (571)270-3667. The examiner can normally be reached on M-F 9-5 EST.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Mark Eashoo can be reached on 571-272-1197. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Art Unit: 1796

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/Mark Eashoo/
Supervisory Patent Examiner, Art Unit 1796

NF
2-9-09